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## Congenital Cardiology Solutions

### KOMMERELL DIVERTICULUM SHOULD BE REMOVED WHEN OPERATING SYMPTOMATIC CHILDREN WITH ABERRANT RIGHT SUBCLAVIAN ARTERY (VASCULAR RING)

Poster Contributions

Poster Sessions, Expo North

Saturday, March 09, 2013, 10:00 a.m.-10:45 a.m.

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Session Title: Congenital Cardiology Solutions: Congenital Surgical Therapies

Abstract Category: 14. Congenital Cardiology Solutions: Therapy

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**Background:** Right aortic arch with aberrant left subclavian artery is the most frequent cause of vascular ring. Usual treatment in symptomatic children is ligamentum arteriosus division, leaving the Kommerell diverticulum in place with potential risk of residual compression, aneurysmal dilation and dissection or even rupture. Translocation of the aberrant left subclavian artery to the left carotid artery together with removal of the Kommerell diverticulum and division of the ligamentum through a left thoracotomy is currently advocated to avoid those complications.

**Results:** Between 9/2009 and 8/2011, 13 patients underwent this procedure. Mean age at time of surgery was 7.2 years (median 4.3, range 0.9-18.9), mean weight 25 (median 18, range 8.4-59). All had respiratory symptoms, associated with dysphagia in 5. CT scan and/or MRI had demonstrated the arch anomaly and the dilated Kommerell diverticulum in all. Surgery consisted of left postero-lateral thoracotomy followed by arterial ligament division to release compression, diverticulum resection and finally left subclavian artery reimplantation on the left carotid artery. Post-operative complications included transient chylothorax in 4 and phrenic palsy in 1 patient. Mean follow-up reached 8 months (median 2.2, range 0.1-39). Residual symptoms were noted in 3 patients. Echo-Doppler analysis showed a patent left subclavian to carotid artery anastomosis in all but 1 (vessels not seen). Histo-pathological analysis of the resected diverticulum, available in 6 patients, showed cystic medial necrosis and inflammatory tissue in 3, non specific histological findings in 2 and hyperplastic myo-intimal lesions in 1.

**Discussion:** translocation of the aberrant subclavian artery together with Kommerell diverticulum resection and ligamentum division is a safe and efficient procedure for symptom relief. The observation of profound wall abnormalities such as medial necrosis in the diverticuli that were analyzed encourages us to maintain this strategy.